

IN THE CLAIMS:

- 1 1. (Currently Amended) A system comprising:
2 a plurality of network resources configured to process received block-based
3 protocol data access requests; and
4 a plurality of virtual servers each allocated a logical partitioning of the network
5 resources to establish an instance of a ~~multi-protocol-server~~ comprising a processor and a
6 memory, each virtual server configured to service the block-based data access requests by
7 converting the block-based protocol requests to appropriate file system data requests,
8 each virtual server further configured to share access to resources of the file system; and
9 each virtual server associated with a different security domain and a context data
10 structure including information pertaining to ~~a~~ its associated security domain ~~of that~~
11 ~~virtual server~~ to enable controlled access to the allocated and shared resources of the
12 server for that virtual server.
- 1 2. (Original) The system of claim 1 wherein the network resources comprise
2 network interfaces assigned to one or more network address resources.
- 1 3. (Previously Presented) The system of claim 1 further comprising storage media
2 configured to store information as units of storage resources, the units of storage
3 resources allocated among each of the virtual servers.
- 1 4. (Original) The system of claim 3 wherein the units of storage resources comprise
2 volumes.
- 1 5. (Original) The system of claim 3 wherein the units of storage resources comprise
2 qtrees.
- 1 6. (Currently Amended) The system of claim 3 further comprising an operating
2 system having a file system resource ~~adapted~~ configured to perform a boundary check to

3 verify that a request is allowed to access certain units of the storage resources on the
4 storage media, each virtual server allowed shared access to the file system and further
5 ~~adapted-configured~~ to create virtual disks within the units of storage resources and
6 wherein each of the virtual disks associated with one or more of the virtual servers.

1 7. (Currently Amended) The system of claim 6 wherein the operating system further
2 comprises a user interface having a command set ~~adapted-configured~~ to operate on virtual
3 disks, and wherein the command set executes within a context of a virtual server.

1 8. (Currently Amended) The system of claim 7 wherein the user interfaces
2 comprises a command line interface (CLI) ~~adapted-configured~~ to support the command
3 set.

1 9. (Currently Amended) The system of claim 8 wherein the CLI comprises a lun
2 command ~~adapted-configured~~ to perform operations to a virtual disk associated with the
3 context of the virtual server.

1 10. (Previously Presented) The system of claim 9 wherein the lun command creates a
2 logical unit number on a file system associated with the server, the logical unit number
3 being associated with the context of the virtual server.

1 11. (Original) The system of claim 8 wherein the CLI comprises an igroup command
2 that generates a set of file system primitive for binding an initiator group to one or more
3 initiator addresses and wherein the initiator group is associated with the context of the
4 virtual server.

1 12. (Original) The system of claim 1 wherein the block-based protocol comprises
2 iSCSI.

1 13. (Original) The system of claim 1 wherein the block-based protocol comprises
2 FCP.

1 14. (Cancelled).

1 15. (Currently Amended) The system of claim 1 wherein the ~~multi-protocol~~ server is
2 further ~~adapted~~ configured to process data access requests in response to one or more file-
3 level protocols.

1 16. (Currently Amended) A method for implementing a virtual server, the method
2 comprising ~~the steps of~~:
3 configuring a plurality of network resources to process received block-based
4 protocol data access requests;
5 allocating logical partitions of the network resources to establish a plurality of
6 virtual servers as instances of a ~~multi-protocol~~ server, comprising a processor and a
7 memory, configured to service the block-based data access requests by converting the
8 block-based protocol requests to appropriate file system primitives; and
9 providing a context data structure to each virtual server, the context data structure
10 including information pertaining to a security domain of that virtual server to enable
11 controlled access to the allocated and shared resources of the server for that virtual
12 server.

1 17. (Currently Amended) The method of claim 16 further comprising ~~the step of~~
2 configuring storage media to store information as units of storage resources, the units of
3 storage resources allocated among each of the virtual servers.

1 18. (Original) The method of claim 17 wherein the units of storage resources
2 comprise volumes.

1 19. (Original) The method of claim 17 wherein the units of storage resources
2 comprises qtrees.

1 20. (Currently Amended) A computer readable medium containing executable
2 program instructions executed by a process, comprising:
3 program instructions that configure a plurality of network resources to process
4 received block-based protocol data access requests;
5 program instructions that allocate logical partitions of the network resources to
6 establish a plurality of virtual servers as instances of a ~~multi-protocol~~ server, comprising
7 a processor and a memory, configured to service the block-based data access requests by
8 converting the block-based protocol requests to appropriate file system primitives; and
9 program instructions that provide a context data structure to each virtual server,
10 the context data structure including information pertaining to a security domain of that
11 virtual server to enable controlled access to the allocated and shared resources of the
12 server for that virtual server.

1 21-23. (Cancelled).

1 24. (Currently Amended) A method, comprising:
2 receiving a block-based data access request from a client;
3 forwarding the request to a virtual server of a plurality of virtual servers of a
4 server comprising a processor and a memory;
5 performing security checks on the request using a context data structure provided
6 to each virtual server, the context data structure including information pertaining to a
7 security domain of that virtual to enable controlled access to allocated and shared
8 resources of the server for that virtual server;
9 converting the received block-based data access request to a file system data
10 access request;
11 in the event that the request passes the security checks, servicing the file system
12 data access request to generate a response; and

13 forwarding the generated response to the client.

1 25. (Currently Amended) A system, comprising:
2 a network interface to receive a block-based data access request from a client;
3 the network interface to forward the request to a virtual server of a plurality of
4 virtual servers of a server comprising a processor and a memory;
5 the operating system to perform security checks on the request using a context
6 data structure provided to each virtual server, the context data structure including
7 information pertaining to a security domain of that virtual server to enable controlled
8 access to allocated and shared resources of the server for that virtual server;
9 in the event that the request passes the security checks, a process to convert the
10 received block-based data access request to a file system data access request;
11 the process to service the file system data access request to generate a response;
12 and
13 the process to forward the generated response to the client.

1 26. (Currently Amended) A computer readable media containing program
2 instructions executed by a processor, comprising:
3 program instructions that receive a block-based data access request from a client;
4 program instructions that forward the request to a virtual server of a plurality of
5 virtual servers of a server comprising a processor and a memory;
6 program instructions that perform security checks on the request using a context
7 data structure provided to each virtual server, the context data structure including
8 information pertaining to a security domain of that virtual server to enable controlled
9 access to the shared resources of the server for ~~the that file system~~ virtual server;
10 program instructions that convert the received block-based data access request to
11 a file system data access request;
12 program instructions that service the file system data access request to generate a
13 response in the event that the request passes the security checks; and

14 forwarding the generated response to the client.